Iowa Darter (*Etheostoma exile*)
Conservation Status Rank Summary

March 5, 2024

For details on assessment and ranking methodology, see: *Conservation Status Assessment Definitions, Process, Rank Factors, and Calculation of State Ranks for Montana Species*

Rarity and Trends

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Rarity					
Range Extent	2024-03-05	Y: 69888.3 km²	3.930	MTNHP Range Maps	None
Area of Occupancy			-		Factor not used in ranking.
Number of Occurrences	2024-03-05	60	2.750	MTNHP Databases	None
Population Size			-		Factor not used in ranking.
# of Occurrences in Good Condition			-		Factor not used in ranking.
% of Area Occupied in Good Condition			-		Factor not used in ranking.
Environmental Specificity			-		Factor not used in ranking.
Rarity is calculated by averaging weighted factor scores: **((3.93 × 1) + (2.75 × 1)) / 2 = 3.34**					
Trends					
Short-term Trend	2024-03-05	0.0%	0.000	BLM and FWP monitoring data	Not too many monitoring sites with Iowa Darter, reviewed FishMT database on a stream level and looked at streams where darter had been found and where multiple sampling events occurred on that same stream if darter were still present. Most sites numbers of darter caught were increasing over time but these sampling events were at different locations in the stream, habitat conditions at different sites could be driving numbers. Numbers declining in some reservoirs where darter are found. (FishMT data) Numbers stable to increasing in Little Beaver Creek over last 10 years (Stuart BLM survey data)
Long-term Trend			-		Factor not used in ranking.
Trends score is calculated by summing weighted short and long-term trend scores: **((0.00 × 2)) = 0.00**					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		Unknown	-		**Factor not used in ranking.** Intensive agriculture, overgrazing, road crossings, dams, and exotic species (Northern Pike in particular) all represent threats.
Intrinsic Vulnerability			-		**Factor not used in ranking.**
No threat or vulnerability data used in ranking this species					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
No individual threats data used in ranking this species						

Conservation Status Rank Calculation

Raw score

Rarity: (3.34 × 100%) + Threats: (0.00) + Trends: (0.00) = 3.34

Calculated Rank: S3

Accepted Rank	S3
Date Approved	2010-04-08
Approval Authority	Montana Species of Concern Committee
Rank Justification	Species appears stable but is not widely distributed and threats are poorly characterized

Supplementary Information

Montana Natural Heritage Program. 2021. Conservation Status Assessment Definitions, Process, Rank Factors, and Calculation of State Ranks for Montana Species. 18 p.
https://mtnhp.mt.gov/docs/Montana_State_Rank_Criteria_20211201.pdf

Montana Field Guide Species Account:
https://fieldguide.mt.gov/speciesDetail.aspx?elcode=AFCQC02240

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=AFCQC02240

Information Needs

Information needs are assessed by considering the availability of factors used to assess species status as well as the quality of these assessments. Current information availability and quality to inform Conservation Status Rank for this species are highlighted.

Rank Factor	Assessment Category	Value	Criteria
General Status	Status Quality	Adequate	Calculated rank has low uncertainty and is represented by a single rank (e.g. S3); accepted rank may be adjusted to a range rank (e.g. S2S3)
		Poor	Rank assessed as SU or calculated rank has notable uncertainty and corresponds to a range rank with 2 or more values (e.g. S2?, S1S3, or S4S5)
Rarity	Range Quality	Adequate	Range polygon adequately represents area of probable occupancy and does not include substantial unoccupied areas; range may be adequately defined and still include areas of unsuitable habitat (e.g. mountain ranges for plains species)
		Marginal	Range polygon defined, but may include or exclude notable areas where the species may or may not occur on the landscape
		Poor	Range polygon not defined
	Habitat Quality	Adequate	Species-habitat relationship is well-defined (e.g. relevant literature or robust habitat model available)
		Marginal	Understanding of species-habitat relationship is adequate among some but not all habitats (e.g. literature covers similar habitats outside of Montana or habitat model performance is only somewhat adequate)
		Poor	Species-habitat relationship is not well understood
Threats	Threat Quality	Adequate	Threat Impact is a single value (including "Unthreatened")
		Marginal	Threat Impact assessed at more than one value (e.g. "High - Medium")
		Poor	Threat Impact is Unknown but Intrinsic Vulnerability is assessed
		Unknown	Threat Impact is Unknown and Intrinsic Vulnerability is not assessed
Trends	Recency	Current	Short-term Trend assessment date less than 10 years old
		Out of Date but Adequate	Short-term Trend assessment date is more than 10 years old or Unknown, but species is Unthreatened
		Out of Date	Short-term Trend assessment date more than 10 years old
		Not Available	Short-term Trend data are not available
	Trend Quality	Sufficient	Short-term Trend assessed at a single value or multiple values with a minimum trend greater than -10% (stable or increasing)
		Unknown but Sufficient	Short-term Trend is Unknown, but species is Unthreatened
		Poor	Short-term Trend is less than -10% (in decline) with two or more values selected
		Unknown	Short-term Trend is Unknown

Summary of Information Availability

Threats are unknown, but other data are available to assess status.

Summary of Information Needs

Research to better characterize threats to the species.

Additional Threat Details

The table below contains the complete threats assessment for this species. While the Conservation Status Rank Calculation is based on cumulative, broadly categorized (Level 1) threats data, threats are assessed and tracked for more specifically categorized (Level 2) threats when available.

Threat Category	Date Assessed	Assessed By	Data Source	Scope	Severity	Imme-diacy	Comments
Natural System Modifications - 7.2 - Dams & Water Management/Use	2024-03-05	Christina Stuart	None	Unknown	Unknown	Moderat e	Prefer vegetated backwaters (Gerrity et al. 2022, Stuart 2022 (unpublished BLM reports)). Any modification to habitat that reduces side channels, backwaters, riffles, etc. could be a threat to the species as this species is commonly found in backwaters and may need varied habitat types to escape predators. Increases in turbidity and sediment load can pose a serious threat as this species is a visual invertivore
Invasive & Other Problematic Species, Genes & Diseases - 8.1 - Invasive Non-Native/Alien Species/Diseases	2024-03-05	Christina Stuart	None	Pervasive	Unknown	High	Northern pike may be a threat in some locations, however, may not lead to population loss if stream is in a natural state (not degraded) which provides varied habitat types for darter to escape predators. Iowa darter and pike have been sampled together over multiple sampling events in streams with varied habitat types (Stuart BLM surveys).
No threats data available for this species							